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Minneapolis, MN 55402-0903			2124	
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Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)		
Office Action Summary		09/734,072	CHRISTENSEN ET AL.		
		Examiner	Art Unit		
		Lawrence Shrader	2124		
Period fo	The MAILING DATE of this communication apor Reply	pears on the cover sheet with the	correspondence address		
THE - Exte after - If the - If NC - Failt Any	MAILING DATE OF THIS COMMUNICATION. Insions of time may be available under the provisions of 37 CFR 1. SIX (6) MONTHS from the mailing date of this communication. e period for reply specified above is less than thirty (30) days, a reply period for reply is specified above, the maximum statutory period are to reply within the set or extended period for reply will, by statut reply received by the Office later than three months after the mailing led patent term adjustment. See 37 CFR 1.704(b).	136(a). In no event, however, may a reply be to bly within the statutory minimum of thirty (30) da will apply and will expire SIX (6) MONTHS from the, cause the application to become ABANDON	imely filed ays will be considered timely. the mailing date of this communication. ED (35 U.S.C. § 133).		
Status					
1)⊠	Responsive to communication(s) filed on 171	November 0204.			
2a)□	This action is FINAL . 2b)⊠ This action is non-final.				
3)□	Since this application is in condition for allowance except for formal matters, prosecution as to the ments is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.				
Disposit	ion of Claims				
5)□ 6)☑ 7)□	Claim(s) $1-4$, $7-10$, $13-16$, and $19-30$ is 4a) Of the above claim(s) is/are withdrawd. Claim(s) is/are allowed. Claim(s) $1-4$, $7-10$, $13-16$, and $19-30$ is Claim(s) is/are objected to. Claim(s) are subject to restriction and/	awn from consideration. is/are rejected.			
Applicat	ion Papers				
10)	The specification is objected to by the Examina The drawing(s) filed on is/are: a) ac Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examination is objected.	cepted or b) objected to by the drawing(s) be held in abeyance. So ction is required if the drawing(s) is constant.	ee 37 CFR 1.85(a). bjected to. See 37 CFR 1.121(d).		
Priority	under 35 U.S.C. § 119				
a)	Acknowledgment is made of a claim for foreig All b) Some * c) None of: 1. Certified copies of the priority documer 2. Certified copies of the priority documer 3. Copies of the certified copies of the priority application from the International Burea See the attached detailed Office action for a lis	nts have been received. nts have been received in Applica ority documents have been receiv au (PCT Rule 17.2(a)).	ntion No ved in this National Stage		
Attachmer		 .			
2) Notice 3) Infor	ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449 or PTO/SB/08 er No(s)/Mail Date	4) Interview Summa Paper No(s)/Mail 5) Notice of Informal 6) Other:			

DETAILED ACTION

- 1. This action is in response to the amendment filed on November 17, 2004.
- 2. The Applicant's argument has been fully considered, but it was not persuasive.
- 3. Claims 5, 6, 11, 12, 17, and 18 have been canceled at the request of the Applicant.

 Claims 1 4, 7 10, 13 16, and 19 30 remain rejected and repeated below.

DETAILED ACTION

Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 5. Claims 1 4, 7 10, 13 16, and 19 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fowlow et al., U.S. Patent 6,189,138 (hereinafter referred to as Fowlow) in view of Goldberg et al., U.S. Patent 6,571,232 (hereinafter referred to as Goldberg).

In regard to claim 1:

"dragging a graphical representation for a server processing resource from a server explorer module to a visual design surface module to add a processing item to a programmable data object being created in the visual design surface module, the server processing resource including at least one of a message queue, a file watching process, an event manager, a print server process, a file system, and a database;"

Fowlow discloses a drag and drop function wherein a component representing software resources on a distributed object system (column 9, lines 45 - 47) is selected and dragged from one panel and dropped onto another panel being a worksheet (visual design surface) where the object component is manipulated in an application construction (column 11, lines 29 – 46).

identifying data schema associated with the server processing resource added to the programmable data object;"

Fowlow discloses a drag and drop function that allows a user to configure objects in a visual design surface giving the developer detailed information about the objects (column 12, lines 20-24), but does not specifically disclose identification of a data schema associated with a resource. However, Goldberg discloses identification of a database schema associated with a server resource (column 2, lines 9 - 37; e.g., Figure 3). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop feature for building applications in the Fowlow invention with the identification of a database schema in the Goldberg invention because the Fowlow invention discloses that detailed information about a resource is available to the developer (column 9, lines 54 - 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema if a database resource was selected in a tiered distributed object system as taught by Goldberg (column 2, lines 17 – 37).

"creating a typed dataset containing the data structures corresponding to the data schema associated with the server processing resource;"

Fowlow discloses a drag and drop function that allows a user to configure objects in a visual design surface giving the developer detailed information about the objects, but does not disclose a dataset containing data structures corresponding to the resource schema. However, Goldberg discloses generation of query objects based on a schema of an underlying database (column 2, lines 15 – 31; column 3, lines 13 – 19). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing a user to configure objects in a visual design surface giving the developer detailed information about the objects in the Fowlow invention with the generation of query objects based on a schema on an underlying database in the Goldberg invention because the Fowlow invention discloses that detailed information about a resource is available to the developer (column 9, lines 54 – 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 – 37).

"creating a command adapter to provide data transfer commands within the programmable data object between the programmable data object and the server processing resource;"

Fowlow discloses that a distributed object system typically includes an object request broker to provide transport mechanisms for communications between a client and a server (column 14, lines 24 – 58; e.g. Figure 10).

"creating a data transfer connection between the programmable data object and the server processing resource."

Fowlow discloses that a distributed object system typically includes an object request broker to provide transport mechanisms for communications between a client and a server (column 6, lines 16 - 21 and 30 - 37).

"inserting a database connection module that creates a data transfer connection between the programmable data object and a database when the dragged item is a database table within the database..."

Fowlow teaches a means to insert connections among modules, but does not specifically teach that the dragged item is a database table. However, Goldberg teaches query objects of schemas including database tables (column 3, lines 37 – 54). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the insertion of connections among modules in a visual design surface as taught by Fowlow with the generation of query objects based on a schema on an underlying database, including tables in the Goldberg invention, because one skilled in the art would be motivated to include all relevant features of the database that require generation of code for an interface of a query object as taught by Goldberg (Abstract) in a visual tool designed to construct object-oriented applications as taught by Fowlow.

"...wherein the database connection module comprises:

a data connection object for creating and managing the data transfer connection between the programmable data object and the database;

Fowlow teaches implementation of relationships among objects when the application is run (Abstract; column 4, lines 45-60)

a managed resource module for provides the data connection object with address and identification information to establish that data transfer connection;

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Fowlow discloses that a distributed object system typically includes an object request broker to provide transport mechanisms for communications between a client and a server (column 6, lines 16-21 and 30-37).

a persistent data storage for maintaining this address and identification information used by the managed resource module."

See Fowlow Figure 1.

In regard to claim 2, incorporating the rejection of claim 1:

"...creating additional initialization methods to support the items added to the programmable data object."

See Fowlow, column 11, lines 20 - 46.

In regard to claim 3, incorporating the rejection of claim 2:

"...editing the processing items within the visual design surface module;

See Fowlow column 4, lines 18 - 26.

updating the processing items edited within visual design surface module;

See Fowlow column 4, lines 35 - 43.

updating the typed dataset within visual design surface module;

See Fowlow column 4, lines 26 - 34.

updating the command adapters within the visual design surface module;

See Fowlow column 4, lines 26 - 34.

identifying any other processing items containing references to data structures and functions edited,

See Fowlow column 4, lines 26 - 34.

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updating the identified items containing references to data structures and functions edited to make all references consistent with each other."

See Fowlow column 4, lines 26 – 34.

In regard to claim 4, incorporating the rejection of claim 3:

"..the items comprise properties and processing instruction source code that may be edited."

See Fowlow column 4, lines 35 - 43.

In regard to claim 7:

Claim 7 (a system claim) is rejected for the same reasons put forth in the rejection of claim 1 (a corresponding method claim) with the following differences also found in the Fowlow reference:

"a memory module; (Figure 3)

a user interface module; (Figure 4)

a mass storage system, (Figure 1)

In regard to claim 8, incorporating the rejection of claim 7:

Claim 8 (a system claim) is rejected for the same reasons put forth in the rejection of claim 2 (a corresponding method claim).

In regard to claim 9, incorporating the rejection of claim 8:

Claim 9 (a system claim) is rejected for the same reasons put forth in the rejection of claim 3 (a corresponding method claim).

In regard to claim 10, incorporating the rejection of claim 9:

Claim 10 (a system claim) is rejected for the same reasons put forth in the rejection of claim 4 (a corresponding method claim).

In regard to claim 13:

Claim 13 (a computer program product claim) is rejected for the same reasons put forth in the rejection of claim 1 (a corresponding method claim).

In regard to claim 14, incorporating the rejection of claim 13:

Claim 14 (a computer program product claim) is rejected for the same reasons put forth in the rejection of claim 2 (a corresponding method claim).

In regard to claim 15, incorporating the rejection of claim 14:

Claim 15 (a computer program product claim) is rejected for the same reasons put forth in the rejection of claim 3 (a corresponding method claim).

In regard to claim 16, incorporating the rejection of claim 15:

Claim 16 (a computer program product claim) is rejected for the same reasons put forth in the rejection of claim 4 (a corresponding method claim).

In regard to claim 19:

"a server explorer module for presenting one or more processing resources present on a server to a programmer for use in creating a programming object class;

See the Fowlow Abstract, Figure 5, and column 11, lines 22 - 35).

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"a visual design surface module for performing the operations associated with creating, editing, and saving the programming object, the visual design surface module comprising:

a drag/drop module for enabling a programmer to select a server resource from the server explorer module and place the selected server resource within a data object on the visual design surface module, the server processing resource including at least one of a message queue, a file watching process, an event manager, a print server process, a file system, and a database;

Fowlow discloses a drag and drop function wherein a component representing software resources on a distributed object system (column 9, lines 45 - 47) is selected and dragged from one panel and dropped onto another panel being a worksheet (visual design surface) where the object component is manipulated in an application construction (column 11, lines 29 - 46).

a command adapter function generation module for generating a data processing object associated with the drag and drop of a server processing resource;

The Fowlow invention generates code corresponding to the connection (resource) in the design surface (column 11, lines 37 - 63).

a typed dataset generation module for generating typed dataset object associated with the drag and drop of a server processing resource;

Fowlow discloses a drag and drop function that allows a user to configure objects in a visual design surface giving the developer detailed information about the objects, but does not disclose a dataset containing data structures corresponding to the resource schema. However, Goldberg discloses generation of query objects based on a schema on an underlying database (column 2, lines 15 – 31; column 3, lines 13 – 19). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing a user to configure objects in a visual design surface giving the developer detailed

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information about the objects in the Fowlow invention with the generation of query objects based on a schema on an underlying database in the Goldberg invention because the Fowlow invention discloses that detailed information about an object resource is available to the developer (column 9, lines 54 - 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 - 37).

an init generation module for generating the set of data processing functions and methods associated with the drag and drop of a server resource,

The Fowlow invention generates code corresponding to the connection (resource) in the design surface (column 11, lines 37-63).

a properties edit module for retrieving the properties and source code for the various objects within the visual design surface module for editing.

See Fowlow column 4, lines 18 – 26 teaching a composition workspace for editing.

"a database connection module for creating a data transfer connection between the programmable data object and a database when the dragged item is a database table within the database..."

Fowlow teaches a means to insert connections among modules, but does not specifically teach that the dragged item is a database table. However, Goldberg teaches query objects of schemas including database tables (column 3, lines 37 – 54). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the insertion of connections among modules in a visual design surface as taught by Fowlow with the generation of query objects based on a schema on an underlying database, including tables in the Goldberg invention, because one skilled in the art would be motivated to include all relevant features of the database that require generation of code for an interface of a query object as taught by Goldberg

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(Abstract) in a visual tool designed to construct object-oriented applications as taught by Fowlow.

"...wherein the database connection module comprises:

a data connection object for creating and managing the data transfer connection between the programmable data object and the database;

Fowlow teaches implementation of relationships among objects when the application is run (Abstract; column 4, lines 45-60)

a managed resource module for provides the data connection object with address and identification information to establish that data transfer connection,

Fowlow discloses that a distributed object system typically includes an object request broker to provide transport mechanisms for communications between a client and a server (column 6, lines 16 - 21 and 30 - 37).

a persistent data storage for maintaining this address and identification information used by the managed resource module."

See Fowlow Figure 1.

In regard to claim 20, incorporating the rejection of claim 19:

"...the drag and drop module comprises:

an explorer interface module to select a server resource from the server explorer module and place it within a data object within the visual design surface module;

Fowlow discloses the selection of a component from one module and placing it on a visual design surface into a part representing an object (Abstract, Figure 5).

a user interface module to perform the visual display and command input operations associated with the drag/drop operation;

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In the Fowlow invention, the user interfaces with the visual display including inputs associated with the drag and drop operation (Figure 5, column 11, lines 27 - 46).

a class generation module to cause the visual design surface module to perform the operations to complete the drag/drop process of a server resource onto the visual design surface module."

See Fowlow column 11, lines 1-28.

In regard to claim 21, incorporating the rejection of claim 19:

"..the drag/drop module further causes the other processing modules in the visual design surface module 402 to perform their operations to complete the drag/drop process of a server resource onto the visual design surface module."

See Fowlow column 11, lines 29 – 56.

In regard to claim 22, incorporating the rejection of claim 19:

"...the command adapter function generation module comprises:

a GetDS module for generating a GetDataSet function that fills a typed dataset with data obtained from a corresponding database;

an updateDS module for generating an UpdateDataSet function that updates a database using the data stored within the typed dataset."

Fowlow does dot teach database access functions, but Goldberg teaches a query object with database query commands (column 2, lines 38 – 43), including select (getDS) and update (updateDSs). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing a user to configure objects in a visual design surface giving the developer detailed information about the objects in the Fowlow invention with the generation of query objects based on a schema of an underlying database in the Goldberg invention, because the Fowlow invention discloses that detailed

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information about an object resource is available to the developer (column 9, lines 54 - 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema and database queries if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 - 37).

In regard to claim 23, incorporating the rejection of claim 19:

"...the command adapter function generation module further accepts an updated command adapter module that has been edited by the properties edit module and generates the updated source code for the functions within the command adapter modules."

See Fowlow column 11, lines 29 – 56.

In regard to claim 24, incorporating the rejection of claim 19:

"...the typed dataset generation module comprises:

a Table Schema module for generating the table records from the database schema within the dataset object; and

a Relations module for generating the relationship data for the fields within the records within the dataset based upon the corresponding relationship data from the database:

Fowlow discloses a drag and drop function that allows a user to configure objects in a visual design surface giving the developer detailed information about the objects, but does not disclose a dataset containing data structures corresponding to the resource schema or relations for the fields within the dataset. However, Goldberg discloses generation of query objects based on a schema on an underlying database (Abstract; column 2, lines 17 - 37) generation of relationship data for the fields (column 3, lines 40 - 45). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing a user to configure objects in a visual design surface giving the developer detailed

information about the objects in the Fowlow invention with the generation of query objects based on a schema of an underlying database in the Goldberg invention because the Fowlow invention discloses that detailed information about an object component available to the developer (column 9, lines 54 - 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 - 37).

a Views module for generating the database views data for the records within the dataset based upon the corresponding views data from the database."

Fowlow does not disclose a view of database records, but Goldberg discloses a view of database records in constructing an SQL query (column 37, lines 51 – 65; Figure 8). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing a user to configure objects in a visual design surface giving the developer detailed information about the objects in the Fowlow invention, with the generation of query objects based on a schema on an underlying database in the Goldberg invention in order to create views of the database, because the Fowlow invention discloses that detailed information about a resource is available to the developer (column 9, lines 54 – 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema to construct views for queries if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 – 37).

In regard to claim 25, incorporating the rejection of claim 19:

[&]quot;... the typed dataset generation module further accepts an updated typed dataset module that has been edited by the properties edit module and generates the updated source code for the functions within the typed dataset module."

Fowlow generates code for the application software under construction (Abstract), but does not accept an updated typed dataset module. However, Goldberg discloses query objects that encapsulate a specific query language and the database organization or schema, including typing. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing code generation for the application software under construction in the Fowlow invention, with the generation of query objects based on a schema on an underlying database in the Goldberg invention in order to create views of the database with a query language, because the Fowlow invention discloses that detailed information about a resource is available to the developer (column 9, lines 54 – 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema to construct queries if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract; column 2, lines 17 – 37).

In regard to claim 26, incorporating the rejection of claim 19:

"...the init generation module comprises:

an Init Function module for generating the processing functions and methods within the programmable data object associated with the command adapter modules;

an InitDataSet module for generating the processing functions and methods within a programmable data object module associated with the type dataset class;

an InitConnection module for generating the processing functions and methods within the programmable data object associated with the data transfer connection between the programmable data object and the database."

The Fowlow invention generates code corresponding to the connection (resource) in the design surface (column 11, lines 37 - 63) but does not teach using a data set. However, the

column 2, lines 17 - 37).

Goldberg invention generates queries in a specific query language (column 2, lines 17 – 64). In order to develop a query it would be inherently necessary to initialize a function (a query object) and the dataset and establish a connection to the database. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to combine the drag and drop function allowing code generation for the application software under construction in the Fowlow invention, with the generation of query objects based on a schema on an underlying database in the Goldberg invention in order to create views of the database with a query language, because the Fowlow invention discloses that detailed information about a selected object component available to the developer (column 9, lines 54 – 55) in the worksheet (a visual design surface), and one skilled in the art would logically include a data schema to construct queries if a database resource was selected in a tiered distributed object system as taught by Goldberg (Abstract;

In regard to claim 27, incorporating the rejection of claim 19:

"...the init generation module further accepts an updated Code Generated Method module that has been edited by the properties edit module and generates the updated source code for the functions within the command adapter modules."

Fowlow discloses an editing module available to update code for the interface functions (column 13, lines 17-30).

In regard to claim 28, incorporating the rejection of claim 19:

"...the properties edit module comprises:

a Properties Retrieval module for retrieving the properties and source code for the various objects within the visual design surface module 402 for editing;

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Fowlow teaches that properties and code are retrieved within the visual design surface for editing (column 13, lines 17 - 30).

a User Interface module for presenting the properties and source code to a programmer, and accepting edits from the programmer;

See Fowlow column 13, lines 17 - 30.

a class update module for updating the edited object."

See Fowlow (column 13, lines 12 - 30).

In regard to claim 29, incorporating the rejection of claim 19:

"...the class update module further:

identifies all other items within the visual design surface module that are affected by the changes made to the edited item;

updates the identified items consistent with the edits made to the edited item."

See Fowlow wherein all items affected by an update are identified and updated (column 11, lines 1-63).

In regard to claim 30, incorporating the rejection of claim 19:

"...the properties edit module further:

identifies all other objects within the visual design surface module 402 that are affected by the changes made by the update operations;

updates the identified objects."

See Fowlow wherein all objects affected by an update are identified and updated (column 11, lines 1-63).

Response to Arguments

6. Applicant's arguments filed on 11/17/2004 have been fully considered but they are not persuasive.

The Applicant has argued:

(A) "Neither Fowlow nor Goldberg discloses a server processing resource including a message queue, a file watching process, an event manager, a print server process, a file system, and a database, as recited by claim 1. Fowlow discloses a distributed object system including a catalog of software resources (see col. 9, 11. 38-47), but does not disclose or suggest a server processing resource including at least one of a message queue, a file watching process, an event manager, a print server process, a file system, and a database. Goldberg discloses a system for browsing database schema information, but does not suggest a server processing resource including at least one of a message queue, a file watching process, an event manager, a print server process, a file system, and a database."

Examiner's response:

Fowlow clearly discloses a server processing resource (e.g., see Figure 1; column 8, lines 1-7), including at least one of "a message queue, a file watching process, an event manager, a print server process, a file system, and a database": at the least, a server inherently monitors for messages, and being a "file server" inherently comprises a file watching process. The motivation for combining Fowlow and Goldberg is explained in the Advisory Action response.

The Applicant has argued:

(B) "Fowlow discloses defining links among parts of a distributed object system. See, for example, Fowlow, col. 11, 11. 35 - 46. Fowlow also discloses an object request broker that provides location and transport mechanisms to deliver a call from a client to a server. Fowlow, col. 6, 11. 16 - 32. However Fowlow fails to disclose or suggest a database connection module that creates a data transfer connection between the programmable data object and a database when the dragged item is a database table within the database. Fowlow also fails to disclose a data connection object for

creating and managing the data transfer connection between the programmable data object and the database, a managed resource module for providing the data connection object with address and identification information used by the managed resource module."

Examiner's response:

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Consequently, the rejections stand as presented in the action.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Shrader whose telephone number is (703) 305-8046. The examiner can normally be reached on M-F 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence Shrader Examiner Art Unit 2124

7 February 2005

KAKALI CHAKI SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2100